

Encl

Please add new claim 14 as follows:

forming a channel region facing a gate electrode through a gate insulating film;

semiconductor film that is formed on a surface of an insulating substrate; and

introducing an impurity into said channel region.--

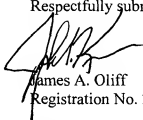
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The attached Appendix includes marked-up copies of the substitute specification (37 C.F.R. §1.125(b)(2)) and each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-14 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



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Attachments:

Substitute Abstract  
Substitute Specification (along with marked-up copy showing the changes made thereto)  
Appendix

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## APPENDIX

## Changes to Abstract:

The following is a marked-up version of the amended Abstract:

The present invention provides a thin-film transistor (TFT) and its production method which enables an arrangement restraining bipolar transistor type behavior, in order to stabilize saturation current and to provide a TFT that can improve reliability. ~~In a~~ The TFT 40, includes a channel region 45-facing a gate electrode 44-through a gate insulating film-12, a source electrode 46-connected to the channel region 45-and a drain region 47-connected to the channel region 45-on the side opposite this source region 46-are formed in a polycrystal semiconductor film 400-that was patterned in island forms. In the channel region-45, a recombination center 450-is formed for capturing a small number of carriers (holes) by introducing impurities, such as inert gases, metals, Group III elements, Group IV elements and Group V elements after a crystallization process is carried out on a semiconductor film 100. ~~The invention thus provides an arrangement restraining bipolar transistor type behavior, to stabilize saturation current and to provide a TFT that can improve reliability.~~

## Changes to Specification:

A Substitute Specification is attached in accordance with 37 C.F.R. 1.125(b)(2).

## Changes to Claims:

The following are marked-up versions of the amended claims 1-13:

1. (Amended) A method of manufacturing a thin-film transistor, comprising:  
~~\_\_\_\_\_wherein forming~~ a channel region facing a gate electrode through a gate insulating film; ~~and~~  
~~\_\_\_\_\_forming~~ source and drain regions connected to the channel region ~~are formed~~  
in a semiconductor film that is formed on a surface of an insulating substrate, ~~characterized in that; and~~

\_\_\_\_\_ forming a recombination center ~~for capturing that captures~~ carriers is ~~formed~~ in the channel region by introducing an impurity ~~to~~ into said channel region.

2. (Amended) ~~A-The~~ method of manufacturing a thin-film transistor according to Claim 1, ~~characterized in that~~ said impurity is being at least one kind selected from the group ~~consisting of~~ including inert gases, metals, Group III elements, Group IV elements and Group V elements.

3. (Twice Amended) ~~A-The~~ method of manufacturing a thin-film transistor according to Claim 1, ~~characterized in that~~ wherein a process of introducing said impurity ~~to~~ into said channel region is carried out by injecting the impurity from a surface side of said channel region.

4. (Amended) ~~A-The~~ method of manufacturing a thin-film transistor according to Claim 3, ~~characterized in that~~ wherein a process of introducing said impurity ~~to~~ into said channel region is carried out, after a crystallization process on a semiconductor film so as to form said channel region, by injecting the impurity from a surface side of said channel region.

5. (Amended) ~~A-The~~ method of manufacturing a thin-film transistor according to Claim 3, ~~characterized in that~~ wherein a process of introducing said impurity ~~to~~ into said channel region is carried out, after a crystallization process on a semiconductor film so as to form said channel region, by injecting the impurity from a surface side of said channel region before a process of forming said gate electrode on a surface side of the channel region.

6. (Amended) ~~A-The~~ method of manufacturing a thin-film transistor according to Claim 3, ~~characterized in that~~ wherein a process of introducing said impurity ~~to~~ into said channel region is carried out, after said gate insulating film and said gate electrode are sequentially formed on a surface side of said channel region, by injecting the impurity from a

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surface side of said gate electrode before an interlayer insulating film is formed on a surface side of the gate electrode.

7. (Twice Amended) A-~~The~~ method of manufacturing a thin-film transistor according to Claim 3, ~~characterized in that~~ an average projected range of the impurity in said process of introducing an impurity ~~is being~~ from ~~the a~~ center in ~~the a~~ direction of thickness of said channel region to an interface between the channel region and the gate insulating film.

8. (Twice Amended) A-~~The~~ method of manufacturing a thin-film transistor according to Claim 3, ~~characterized in that~~ an average projected range of the impurity in said process of introducing an impurity ~~is being~~ from ~~the a~~ center in ~~the a~~ direction of thickness of said channel region to an interface between the channel region and a layer located on said substrate side.

9. (Amended) A-~~The~~ method of manufacturing a thin-film transistor according to Claim 1, ~~characterized in that~~ a process of introducing said impurity to said channel region ~~is being~~ carried out by impurity diffusion from an impurity diffusion source arranged at a lower layer side of said channel region.

10. (Amended) A-~~The~~ method of manufacturing a thin-film transistor according to Claim 9, ~~characterized in that~~ said impurity diffusion ~~is being~~ carried out in a crystallization process on a semiconductor film so as to form said channel region.

11. (Twice Amended) A-~~The~~ method of manufacturing a thin-film transistor according to Claim 4, ~~characterized in that~~ said crystallization process ~~is being~~ laser annealing on a semiconductor film so as to form said channel region.

12. (Twice Amended) A-~~The~~ method of manufacturing a thin-film transistor according to Claim 1, ~~characterized in that~~ each process carried out after introducing said impurities to said channel region ~~is being~~ carried out at a temperature below 400°C.

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13. (Twice Amended) A-~~The~~ method of manufacturing a thin-film transistor according Claim 1, characterized in that each process carried out after introducing said impurities to said channel region is being carried out at a temperature below 300°C.

Claim 14 is added.

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